ABSTRACT

Cocoa is a plantation commodity which in the last few decades has proven capable of being an adequate source of income to improve the welfare of farmers. Cocoa nurseries are one of the elements of plant cultivation techniques that need to be considered, because the aim of nurseries is to increase the percentage of growing live cocoa beans, avoid the death of young cocoa plants and most importantly, obtain quality plants or seeds. Apart from seeding, fertilization is also a factor that can increase cocoa production and improve quality in an area, because this adds nutrients needed for plant growth and production.This research to determine the optimal fertilization concentration for the growth of cocoa seedlings and to determine the interaction between the concentration of fertilization with various types of foliar fertilizers and the growth of cocoa seedling (*Theobroma cacao* L) .This research was conducted in Sawang Village,Sawang Aceh Utara District. This research design used in this research a completely randomized design with three replications. The first factor (G) consisted of four concentration of 4 levels, G0(control), G1: 1.5 ml , G2: 2.5 ml, G3 : 3 ml. The second factor(P) consisted of four concentration of 4 levels: P0: (control), P1: 1.5 ml, P2: 2.5 ml P3: 3 ml. that the application of foliar fertilizer (G) affected all observed parameters except for stem diameter, number of leaves and leaf area at 15 days after planting (DAS). Foliar fertilizer application treatment (P) affected all observed parameters except for the number of leaves aged 15 DAS, leaf area at 15, 45 and 60 DAS. There was a very significant interaction between the application of foliar fertilizer (G) and leaf fertilizer (P) to the height of the seedlings at 15 DAS, stem diameter at 30 and 40 DAS, the number of leaves at 45 DAS and leaf width at 45 and 60 DAS and to weight. dry seedlings and significant interactions on the number of leaves at the age of 15 and 60 DAS and leaf area at 30 DAS.

Key word : *cocoa seeds, foliar fertilizer*